

TABLE OF CONTENTS

Division 11. General Requirements and Covenants.

1101.	Definitions	1
1102.	Proposal Requirements and Conditions.....	17
1103.	Approval for Award and Award of Contract.....	54
1104.	Scope of Work	56
1105.	Control of Work.....	59
1106.	Control of Materials.....	75
1107.	Legal Relations and Responsibility to the Public	77
1108.	Prosecution and Progress.....	92
1109.	Measurement and Payment and Metric Conversion	101
1110.	Progress Scheduling.....	119
1111.	Incentive/Disincentive for Early Completion.....	122
1112.	A + B Bidding.....	124
1113.	Hourly Lane Rental (A + B Bidding with Incentive/Disincentive).....	126

Division 20. Equipment Requirements.

2001.	General Equipment Requirements.....	131
-------	-------------------------------------	-----

Division 21. Earthwork, Subgrades, and Subbases.

2101.	Clearing and Grubbing.....	155
2102.	Roadway and Borrow Excavation	159
2103.	Pre-Splitting and Production Blasting of Rock Slope Cuts	174
2104.	Channel Excavation	177
2105.	Stripping, Salvaging, and Spreading Topsoil	177
2106.	Settlement Plates.....	178
2107.	Embankments.....	180
2108.	Overhaul	191
2109.	Natural Subgrade.....	193
2110.	Soil Aggregate Subbase	196
2111.	Granular Subbase.....	198
2112.	Wick Drains.....	201
2113.	Subgrade Stabilization Material	206
2115.	Modified Subbase	206
2116.	Full Depth Reclamation.....	208
2120.	Fuel Adjustment.....	212
2121.	Granular Shoulders.....	215
2122.	Paved Shoulders	220
2123.	Earth Shoulders for Pavements and Bases	223
2125.	Reshaping Ditches.....	226
2126.	Reclaiming Present Surfacing Material.....	227
2127.	Reconstruction of Roadbed	228
2128.	Furnish and Apply Granular Shoulder Material	230

Division 22. Base Courses.

2201.	Portland Cement Concrete Base	233
2203.	Hot Mix Asphalt Base.....	234

2210.	Macadam Stone Base.....	234
2212.	Base Cleaning and Repair	237
2213.	Base Widening.....	244
2214.	Pavement Scarification	249
2216.	Cracking and Seating Concrete Pavement	252
2217.	Rubblizing Existing Portland Cement Concrete Pavement	255

Division 23. Surface Courses.

2301.	Portland Cement Concrete Pavement	259
2302.	Portland Cement Concrete Widening.....	291
2303.	Hot Mix Asphalt Mixtures	296
2304.	Detour Pavement.....	326
2306.	Bituminous Fog Seal (Pavement)	327
2307.	Bituminous Seal Coat	330
2308.	Bituminous Fog Seal (Shoulders)	340
2309.	Surface Recycling by Heater Scarification	342
2310.	Portland Cement Concrete Overlay	346
2312.	Granular Surfacing.....	352
2314.	Surface Application of Calcium Chloride.....	357
2315.	Driveway Surfacing	359
2316.	Pavement Smoothness	361
2317.	Primary and Interstate Pavement Smoothness.....	370
2318.	Cold In-Place Recycled Asphalt Pavement.....	377
2319.	Slurry Leveling, Slurry Wedge (Edge Rut Treatment), and Strip Slurry Treatment	382

Division 24. Structures.

2401.	Removal of Existing Structures	394
2402.	Excavation for Structures	397
2403.	Structural Concrete	407
2404.	Reinforcement.....	425
2405.	Foundations and Substructures	428
2406.	Concrete Structures	434
2407.	Precast and Prestressed Concrete Bridge Units.....	437
2408.	Steel Structures	448
2409.	Timber.....	482
2410.	Plank Decks	487
2411.	Laminated Wood Decks	489
2412.	Concrete Bridge Decks	490
2413.	Bridge Deck Surfacing, Repair, and Overlay.....	497
2414.	Smoothness of Bridge Decks and Bridge Deck Overlays Railings	510
2415.	Concrete Box, Arch and Circular Culverts	514
2416.	Rigid Pipe Culverts	516
2417.	Corrugated Culverts	520
2420.	Structural Plate Pipes, Pipe Arches, and Arches	523
2422.	Unclassified Pipe	527
2423.	Support Structures for Highway Sign, Luminaires, and Traffic Signals	529
2424.	Shotcrete.....	531
2425.	Precast Prestressed Concrete Deck Panels	539

2426.	Structural Concrete Repair	540
2427.	Bridge Cleaning	542
2428.	Concrete Drilled Shaft Smoothness of Bridge Decks and Bridge Deck Overlays	544
2429.	Pre-Engineered Steel Truss Recreational Trail Bridge	549
2430.	Modular Block Retaining Wall	553
2431.	Segmental Retaining Wall.....	557
2432.	Mechanically Stabilized Earth (MSE) Retaining Wall.....	563
2433.	Railings Concrete Drilled Shaft	573
2434.	Disc Bearing Assembly.....	589
2435.	Sanitary and Storm Sewer Structures.....	593

Division 25. Miscellaneous Construction.

2501.	Piles and Pile Driving	606
2502.	Subdrains.....	623
2503.	Storm Sewers	630
2504.	Sanitary Sewers.....	635
2505.	Guardrail Construction and Removal.....	651
2506.	Flowable Mortar	658
2507.	Concrete and Stone Revetment.....	663
2508.	Removal of Paint and Painting Steel Bridge Structures	668
2509.	Cleaning, Surface Preparation, and Painting of Galvanized Surfaces.....	699
2510.	Removal of Pavement.....	705
2511.	Removal and Construction of Sidewalks and Recreational Trails.....	708
2512.	Portland Cement Concrete Curb and Gutter.....	713
2513.	Concrete Barrier	715
2514.	Curb Removal.....	721
2515.	Removal and Construction of Paved Driveways	724
2516.	Removal and Construction of Retaining Walls and Steps.....	726
2517.	Railroad Approach Sections	728
2518.	Safety Closure	729
2519.	Fence Construction.....	731
2520.	Field Laboratory and Field Office.....	736
2521.	Certified Plant Inspection	740
2522.	Tower Lighting	741
2523.	Highway Lighting	751
2524.	Highway Signing	761
2525.	Traffic Signalization	768
2526.	Construction Survey.....	793
2527.	Pavement Marking	799
2528.	Traffic Control	813
2529.	Full Depth Finish Patches.....	830
2530.	Partial Depth Finish Patches.....	845
2531.	Pavement Surface Repair (Milling)	856
2532.	Pavement Surface Repair (Diamond Grinding).....	860
2533.	Mobilization.....	864
2534.	Delivery of Samples	865
2535.	Bin Type Crib Walls	866
2536.	Asbestos Removal	870
2537.	Underground Tank System Removal and Petroleum Contaminated	

	Soil Remediation.....	873
2538.	Salvage, Removal, and Disposal of Obstructions	882
2539.	Concrete Pavement Undersealing by Pressure Grouting	887
2540.	Longitudinal Joint Repair	893
2541.	Crack and Joint Cleaning and Sealing (HMA Surfaces).....	895
2542.	Crack and Joint Cleaning and Sealing (Portland Cement Concrete Pavement).....	898
2543	Transverse Joint Repair for HMA Pavements	903
2544.	Cleaning and Filling Cracks for HMA Surfaces	905
2545.	Overlay of Type "B" Guide Signs	909
2546.	Gabions and Revet Mattresses.....	911
2547.	Temporary Stream Access.....	917
2548.	Milled Shoulder Rumble Strips – HMA or PCC Surface.....	918
2549.	Pipe and Manhole Rehabilitation	920
2550.	Night Work Lighting.....	930
2551.	Crash Cushions	931
2552.	Trench Excavation and Backfill	934
2553.	Trenchless Construction	943
2554.	Water Mains, Valves, Fire Hydrants, and Appurtenances.....	948

Division 26. Roadside Development.

2601.	Erosion Control	963
2602.	Water Pollution Control (Soil Erosion).....	986
2610.	Furnish and Install Shrubs, Trees, and Vines	990
2611.	Furnish and Install Shrubs and Trees with Warranty	998
2612.	Mowing.....	1001

Division 41. Construction Materials.

4100.	General Provisions.....	1006
4101.	Portland Cement.....	1009
4102.	Water for Concrete and Mortar	1011
4103.	Liquid Admixtures for Portland Cement Concrete	1011
4104.	Burlap for Curing Concrete	1012
4105.	Liquid Curing Compounds.....	1013
4106.	Plastic Film and Insulating Covers for Curing Concrete.....	1014
4107.	Plastic Film for Subgrade Treatment.....	1014
4108.	Supplementary Cementitious Materials	1015
4109.	Aggregate Gradations	1015
4110.	Fine Aggregate for Portland Cement Concrete	1016
4111.	Class L Fine Aggregate for Portland Cement Concrete	1016
4112.	Intermediate Aggregate for Portland Cement Concrete	1017
4115.	Course Aggregate for Portland Cement Concrete	1019
4117.	Class V Aggregate for Portland Cement Concrete.....	1023
4120.	Granular Surfacing and Granular Shoulder Aggregate	1024
4121.	Granular Subbase Material	1026
4122.	Crushed Stone Base Material	1027
4123.	Modified Subbase Material.....	1027
4124.	Aggregate for Slurry Mixtures	1028
4125.	Aggregate for Bituminous Sealcoat.....	1029
4127.	Aggregate for Hot Mix Asphalt	1030

4130.	Revetment Stone and Erosion Stone.....	1031
4131.	Porous Backfill Material	1034
4132.	Special Backfill Material.....	1034
4133.	Granular Backfill Material.....	1035
4134.	Floodable Backfill Material.....	1036
4136.	Joint Fillers, Sealers, and Seals.....	1036
4137.	Asphalt Binder	1039
4138.	Cutback and Liquid Asphalts	1039
4139.	Liquid Sealing Materials for Portland Cement Concrete Surfaces ...	1039
4140.	Emulsified Asphalt	1039
4141.	Corrugated Steel Culvert Pipe	1040
4143.	Subdrain Pipe	1041
4144.	Structural Plates for Pipe, Pipe Arches, and Arches.....	1043
4145.	Concrete Culvert Pipe.....	1044
4146.	Plastic Pipe	1047
4147.	Pipe and Manhole Rehabilitation Materials.....	1048
4148.	Drain Tiles.....	1054
4149.	Sanitary and Storm Sewer Pipe and Structures Materials	1054
4150.	Water Main, Valve, Fire Hydrant, and Appurtenance Materials	1065
4151.	Steel Reinforcement	1071
4152.	Structural Steel	1076
4153.	Miscellaneous Iron and Steel.....	1077
4154.	Fence Materials	1082
4155.	Guardrail	1086
4160.	Wood Preservatives.....	1088
4161.	Preservative Treatment.....	1088
4162.	Untreated Timber and Lumber	1092
4163.	Treated Timber and Lumber	1095
4164.	Treated Wood Posts	1096
4165.	Timber Piles.....	1099
4166.	Concrete Piles	1103
4167.	Steel Piles.....	1104
4169.	Erosion Control	1105
4170.	Landscape Plant Materials.....	1115
4182.	Paints for Steel Bridges and Structures	1120
4183.	Traffic Paints and Pavement Markings	1120
4184.	Reflectorizing Spheres for Traffic Paint.....	1129
4185.	Highway Lighting Materials	1131
4186.	Signing Materials	1146
4187.	Materials for Support Structures	1159
4188.	Traffic Control Devices.....	1161
4190.	Nonferrous Metals	1164
4191.	Keyway and Expansion Tubes.....	1165
4192.	Caulking Compound	1166
4193.	Hydrated Lime for Soil Stabilization	1166
4194.	Calcium Chloride and Sodium Chloride	1167
4195.	Bearing Pads	1167
4196.	Engineering Fabrics	1169
APPENDIX.....		1173
INDEX		1193

